

Amendments to the Specification

Page 7, beginning on line 11, amend the paragraph as follows.

Referring now to FIG. 3, a photosensitive drum assembly in accordance with the present invention is shown, in which portions of the drum and interiorly disposed portions of the drum flanges are shown in cross-section. The drum 50 is formed as a hollow tubular member having a first end 52 and a second end 54, with the drum further having an interior surface 56 and an exterior surface 58. Flanges ~~60, 62~~ 60 and 62 are inserted into each of the first and second ends ~~52, 54~~ 52 and 54 of the drum 50, and the flanges each include a first portion ~~60a, 62a,~~ 60a and 62a disposed inside of the drum, and a second portion ~~60b, 62b~~ 60b and 62b disposed outside of the drum. The interiorly disposed first portions ~~60a, 62a,~~ 60a and 62a are fastened to the drum utilizing, for example, an adhesive, and preferably a tight fit or an interference fit is provided between the first portions ~~60a, 62a,~~ 60a and 62a and the interior surface 56 of the drum 50. It is also possible to fasten or connect the flanges to the drum without an adhesive (e.g., with an interference fit). Further, as discussed below, because of the characteristics of the grounding plate assembly 68, the flange 60 can be fastened to the drum 50 without additional securement. One or both of the second exteriorly disposed portions ~~60b, 62b~~ 60b and 62b typically have gear surfaces formed thereon. The gear surfaces are utilized to receive a driving force for driving the drum, and also to impart a driving force for driving other components. For example, the gear on portion 60b can receive a driving force from a drive gear of the image forming apparatus in order to rotate the drum 50. The gear on portion 62b can then be utilized to provide a driving force for other components by coupling the gear 62b to a drive gear of another component, such as a paper feed roller. Thus, the flange 60 can receive a driving force for rotating the drum, and the flange 62 can deliver a driving force for driving a paper feed device. Although the gears 60b, 62b are represented as spur gears, it is to be understood that various gear configurations can

be utilized, and the present invention is not limited to particular gears utilized on the flanges of the drum. It is also possible to utilize the present invention with a drum flange which does not have a gear surface formed on the flange.

Page 8, beginning on line 13, amend the paragraph as follows.

The flanges ~~60, 62~~ 60 and 62 each have an aperture extending therethrough for receiving a support shaft 64, upon which the drum 50 is rotatably mounted. Although the shaft 64 is depicted as a complete shaft, i.e., it extends completely through the drum, partial shaft arrangements are also known, in which shaft portions or pins extend through each flange and into each end of the drum, but they do not extend for the full length of the drum. The present invention can be utilized with either partial or full shaft assemblies. As schematically represented at 66, the shaft 64 is grounded, to thereby ground the photosensitive drum 50. To provide a connection between the interior surface 56 of the drum 50 and the shaft 64, a contact assembly or grounding assembly 68 is provided as will be discussed in further detail hereinafter. In the presently preferred form, the contact assembly 68 is provided as a metal (e.g., copper) grounding plate which is fastened to one of the flanges, and the flanges are formed of plastic. However, it is to be understood that various other expedients are possible. For example, the grounding/contact assembly can be formed as one piece with the flange, and portions of the contact/grounding assembly and/or flange can be formed of metal or conductive plastics. As shown in FIG. 3, in a presently preferred form, the grounding plate assembly 68 includes inwardly projecting contact members or tongues 70, which make contact with the shaft 64. In addition, as shown in FIG. 6 and as will become further apparent from the discussion which follows, the grounding plate assembly 68 also includes radially outwardly projecting contact members 101-105 which contact the interior surface 56 of the drum 50 and remove an electrically resistive coating therefrom. Often, portions of the tube which are disposed interiorly of the ends (i.e., toward the

longitudinal center of the drum) will have a reduced inner radius so that a ridge will be formed (not shown). This ridge or transition to a reduced inner radius of the drum can be provided to limit adhesive flow (if an adhesive is utilized) into the longitudinally interior portions of the tube to avoid any adverse effects upon the performance of the drum and/or to limit movement of the flanges upon insertion into the drum.

Page 10, beginning on line 18, amend the paragraph as follows.

Referring briefly to FIG. 4, an end view of a flange (without the grounding assembly) is shown. As discussed earlier, such a flange 60 will have an aperture 80 through which a support shaft 64 can extend, and the support shaft 64 can also be utilized for grounding the photosensitive drum. The first portion 60a of the flange 60 which extends into the drum is often provided with recesses ~~82, 84~~ 82 and 84 in the form of slots which extend from the longitudinally innermost end (i.e., the end of the flange which extends farthest into the drum) of the flange. These recesses ~~82, 84~~ 82 and 84 allow the flange to be formed of a relatively rigid material, while also allowing the inner portion 60a of the flange to yield to allow insertion of the flange into the drum and ensure that the flange is tightly held within the drum. Projecting pins P can extend from the flange and are utilized for fastening the grounding plate to the flange (one of the pins P is also represented in FIG. 3). The pins P can be formed of the same plastic material as that of the flange, and the pins P allow the grounding plate to be properly positioned with respect to the flange utilizing apertures which are formed in the grounding plate. Once the pins P are received by apertures of the grounding plate, the head of the pins can be heated to flatten the heads of the pins, and thus prohibit removal of the grounding plate from the pins so that the grounding plate is fastened to the flange. It is to be understood, however, that other expedients are also possible for fastening or connecting the grounding plate or contact assembly of the present invention to a drum flange.